

## Coast Guard, DHS

## § 160.055-5

ring, slide adjuster and snap hook ends shall be welded or brazed, or they may be a one-piece casting. The complete body strap assembly shall have a minimum breaking strength of 360 pounds.

(j) *Coating*. The coating for the plastic foam shall be a liquid elastomeric

vinyl compound. The coating shall be International Orange in color (Color No. 12197 of Federal Standard 595) or Scarlet Munsel 7.5, Red 6/10 and shall meet the following requirements in Table 160.055-3(j):

TABLE 160.055-3(j)

Property	Test method	Requirement
Tensile strength .....	ASTM-D882, Method B, ½ in. dumbbell die .....	1,200 p.s.i., minimum.
Ultimate elongation .....	ASTM-D882, Method B, ½ in. dumbbell die .....	320 percent, minimum.
Tear resistance .....	ASTM-D1004, Constant Elongation Machine .....	90 pounds per inch, minimum.
Abrasion resistance .....	FS CCC-T-191, Method 5304, No. 8 cotton duck, 6 lb. tension, 2 lb. pressure.	100,000 double rubs.
Blocking .....	FS CCC-T-191, Method 5872, 30 minutes at 180 °F., ¼ p.s.i.	No blocking.
Accelerated weathering .....	FS CCC-T-191, Method 5670, 120 hours .....	Color change—very slight. Cracking—None. Flexibility—No change.
Plasticizer heat loss .....	FS CCC-A-700, paragraph 4.4.4, 48 hours at 221 °F.	8 percent, maximum.
Adhesion to foam—Tensile pull .....	ASTM-D413, machine method, 12 in. per minute, 1 in. strip.	
Film to foam skin .....		4 lb./in., minimum.
Film to foam (no skin) .....		2 lb./in., minimum.
Water absorption .....	ASTM-D570, 24 hours at 70 °F .....	0.5 percent, maximum.
Cold crack (unsupported film) 0 °F .....	Coast Guard, 164.015, paragraph 164.015-4(j) ...	No cracking.

[CGFR 66-73, 32 FR 5500, Apr. 4, 1967, as amended by CGD 72-163R, 38 FR 8121, Mar. 28, 1973; CGD 78-012, 43 FR 27153, 27154, June 22, 1978; CGD 84-068, 58 FR 29493, May 20, 1993]

### § 160.055-4 Materials—nonstandard life preservers.

All materials used in nonstandard life preservers must be equivalent to those specified in § 160.055-3 for standard life preservers.

[CGD 72-163R, 38 FR 8121, Mar. 28, 1973]

### § 160.055-5 Construction—standard life preservers.

(a) *General*. This specification covers life preservers which essentially consist of plastic foam buoyant material arranged and distributed so as to provide the flotation characteristics and buoyancy required to hold the wearer in an upright or slightly backward position with head and face clear of the water. The life preservers are also arranged so as to be reversible and are fitted with straps and hardware to provide proper adjustment and fit to the bodies of various size wearers.

(b) *Construction—standard, vinyl dip coated life preserver*. This device is constructed from one piece of unicellular plastic foam with neck hole and the body slit in the front, vinyl dip coat-

ing, and fitted and adjustable body strap.

(1) *Buoyant material*. The buoyant material of the life preserver shall be a molded shape or made from one or two sheets of foam finished so as to have dimensions after coating in accordance with the pattern shown on Dwg. No. 160.055-1A, Sheet 1, for adult size and Sheet 2 for child size. The reinforcing fabric shall be cemented on the foam buoyant body before coating.

(2) *Coating*. After all cutting and shaping of the buoyant body and installation of the reinforcing fabric, the entire body of the life preserver shall be coated evenly and smoothly to a minimum thickness of 0.010" with a liquid vinyl coating material of the type described in § 160.055-3(j).

(3) *Body strap*. After the coating on the buoyant body of the life preserver is fully cured, a nylon webbing body strap shall be attached as shown on Dwg. No. 160.055-1A.

(4) *Stitching*. All stitching shall be a short lock stitch, conforming to Stitch Type 301 of Federal Standard 751, with nylon thread, and there shall be not

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less than 9 nor more than 11 stitches to the inch. Bar tacking with nylon thread is acceptable as noted on Dwg. No. 160-055-IA.

(c) *Construction—standard, cloth covered life preserver.* This device is constructed from three sections of unicellular plastic foam contained in a cloth envelope and has a neck hole, the body slit in the front, and a fitted and adjustable body strap.

(1) *Buoyant material.* The buoyant material of the life preserver shall be three sections of foam cut so as to have finished dimensions in accordance with the patterns shown on Dwg. No. 160.055-IB, Sheet 2, for adult size and Sheet 4, for child size. One or two layers of foam may be used to make up each section.

(2) *Envelope.* The envelope shall be cut to the pattern shown on Dwg. No. 160.055-IB, Sheet 1, for adult size, and Sheet 3, for child size, and joined by seams and stitching as shown on the drawing. Alternate finished envelopes are permitted as noted on Dwg. No. 160.055-IB.

(3) *Body strap.* The body strap may be cotton or nylon webbing and shall be attached by stitching as shown on the Dwg. No. 160.055-IB, Sheet 1, for adult size and Sheet 3, for child size.

(4) *Stitching.* All stitching shall be a short lock stitch conforming to Stitch Type 301 of Federal Standard No. 751, and there shall be not less than 7 nor more than 9 stitches to the inch if cotton thread is used, and not less than 9 nor more than 11 if nylon thread is used. Bar tacking is acceptable as noted on Dwg. No. 160.055-IB.

(d) *Workmanship.* Life preservers shall be of first-class workmanship and shall be free from any defects materially affecting their appearance or serviceability.

[CGFR 66-73, 32 FR 5500, Apr. 4, 1967, as amended by CGD 72-163R, 38 FR 8121, Mar. 28, 1973]

## § 160.055-6 Construction—non-standard, life preservers.

(a) *General.* The construction methods used for a nonstandard life preserver must be equivalent to the requirements in §160.055-5 for a standard life preserver and also meet the requirements in this section.

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(b) *Size.* Each nonstandard life preserver must contain the following volume of plastic foam buoyant material, determined by the displacement method:

(1) 700 cubic inches or more for an adult size;

(2) 350 cubic inches or more for a child size.

(c) *Arrangement of buoyant materials.* The buoyant material in nonstandard life preservers must:

(1) Be arranged to hold the wearer in an upright or backward position with head and face out of water;

(2) Have no tendency to turn the wearer face downward in the water; and

(3) Be arranged so that 68 to 73 percent of the total is located in the front of the life preserver.

(d) *Adjustment, fit, and donning.* Each nonstandard life preserver must be capable of being:

(1) Worn reversed;

(2) Adjusted to fit a range of wearers for the type designed; and

(3) Donned in a time comparable to that of a standard life preserver.

[CGD 72-163R, 38 FR 8121, Mar. 28, 1973]

## § 160.055-7 Sampling, tests, and inspections.

(a) Production tests and inspections must be conducted by the manufacturer of a life preserver and the accepted laboratory inspector in accordance with this section and §160.001-5.

(b) *Buoyancy test.* The buoyancy of the pad inserts from the life preserver shall be determined according to §160.001-5(f) of this part with each compartment of the buoyant pad insert covers slit so as not to entrap air. The period of submersion must be at least 48 hours.

(c) *Buoyancy required.* The buoyant pad inserts from Model 3 adult life preservers shall provide not less than 25 pounds buoyancy in fresh water, and the pads from Model 5 child life preservers shall provide not less than 16.5 pounds buoyancy.

[CGD 95-028, 62 FR 51215, Sept. 30, 1997]